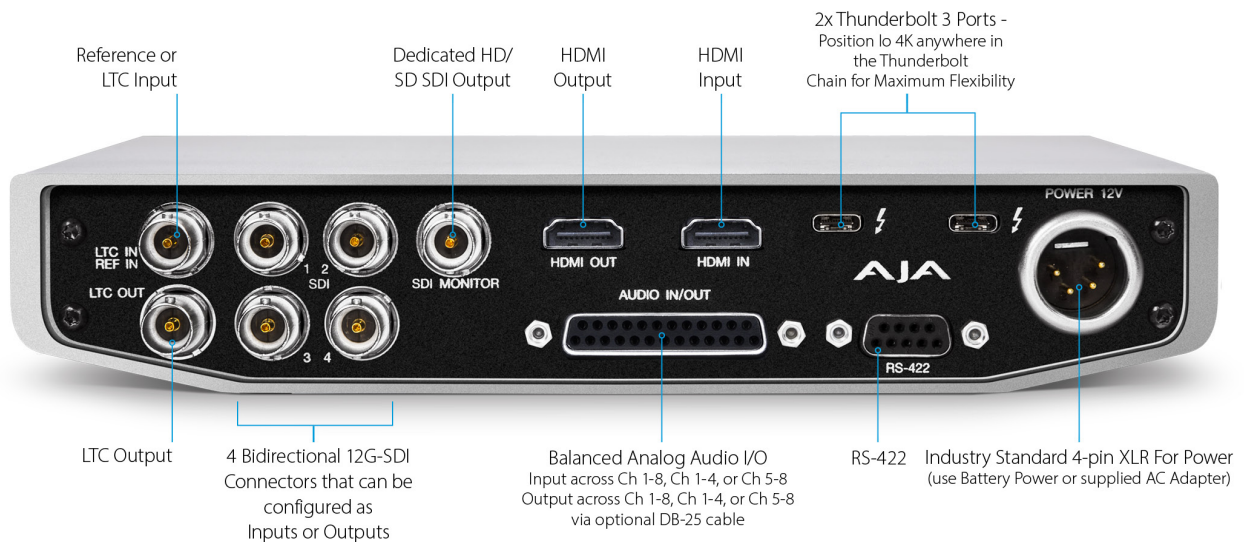




io 4K Plus

io 4K Plus is the cutting edge of capture and output hardware available over Thunderbolt 3, offering a full set of professional video and audio connectivity with support for the latest 4K/UltraHD devices, High Frame Rate (HFR), High Dynamic Range (HDR) and deep color workflows. The power of Thunderbolt 3 enables io 4K Plus to handle a wide range of formats from SD to HD, UltraHD and full 4K with frame rates up to 60p over both 12G-SDI and HDMI 2.0 with single cable simplicity, plus HDR 10 and HLG support over HDMI for emerging HDR workflows.

<https://www.aja.com/products/io-4k-plus>



Video Formats

- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60

- (2K) 2048 x 1080p 23.98, 24, 25
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1080p 23.98, 24, 25, 29.97, 30
- (HD) 1080i 50, 59.94, 60
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

Note: High Frame Rate capabilities are dependent on host system attributes. Not all systems and configurations will support all frame rates.

Video Input Digital

- 12G-SDI*, SMPTE-2082, 12-bit**, 10-bit
- 6G-SDI*, SMPTE-2081, 10-bit
- 3G-SDI, SMPTE 425
 - RGB 4:4:4 12-bit**, YCbCr 4:2:2 10-bit
- 1.5G-SDI, SMPTE 292M
 - Single Link HD-SDI YCbCr 4:2:2 10-bit
 - Dual Link RGB 4:4:4 12-bit**, Dual Link YCbCr 4:2:2 10-bit
- 270 Mbps SDI, SMPTE 259M-C
 - YCbCr 4:2:2 10-bit, 8-bit
- HDMI v2.0
 - 30/36-bits/pixel, RGB or YUV, 6 Gbps per color component
 - 4K, UltraHD, 2K, HD and SD with HFR support up to 60p (4:2:2), 10-bit and 8-bit

*SDI connections are bidirectional. For 2K/HD, capture and monitoring can be simultaneous. For 4K/UltraHD with 12G-SDI, capture and monitoring can also be simultaneous. For 4K/UltraHD with 3G-SDI, all four connections must be used for either Input or Output. Additionally, 12G-SDI, 6G-SDI configured inputs support UltraHD / 4K only.

**Bit depth support is application dependent. Check with your software manufacturer for compatibility.

Video Output Digital

- 12G-SDI*, SMPTE-2082, 12-bit**, 10-bit
- 6G-SDI*, SMPTE-2081, 10-bit
- 3G-SDI, SMPTE 425
 - RGB 4:4:4 12-bit**, YCbCr 4:2:2 10-bit
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*SDI connections are bidirectional. For 2K/HD, capture and monitoring can be simultaneous. For 4K/UltraHD with 12G-SDI, capture and monitoring can also be simultaneous. For 4K/UltraHD with 3G-SDI, all four connections must be used for either Input or Output. Additionally, 12G-SDI, 6G-SDI configured outputs support UltraHD / 4K only.

**Bit depth support is application dependent. Check with your software manufacturer for compatibility.

HDR

- SDI: VPID signaling for SDR/HDR Transfer Characteristics, Colorimetry and Luminance
- HDMI: HDR10 Support - HDR Infoframe metadata, compatible with HDMI 2.0a/CTA-861.3
- HDMI: HLG Support - compatible with HDMI 2.0b/CTA-861-G

Note: HDR support is application dependent. Check with your software manufacturer for compatibility.

Audio Inputs Digital

- 16-channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-channel, 24 and 16-bit HDMI embedded audio, 48 kHz sample rate, synchronous

Audio Inputs Analog

- 8-channel, 24 and 16-bit D/A analog audio, 48 kHz sample rate, balanced, using industry standard 8x XLR on DB-25 breakout cable (cable not included)
- +24 dBu full scale digital (0 dBFS)
- +/- 0.2 dB 20 to 20 kHz frequency response
- Input supported across Ch 1-8, Ch 1-4, or Ch 5-8 depending on configuration chosen

Audio Outputs Digital

- 16-channel, 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

Audio Outputs Analog

- 8-channel, 24-bit D/A analog audio, 48 kHz sample rate, balanced, using industry standard 8x XLR on DB-25 breakout cable (cable not included)
- +24 dBu full scale digital (0 dBFS)
- +/- 0.2 dB 20 to 20 kHz frequency response
- Output supported across Ch 1-8, Ch 1-4, or Ch 5-8 depending on configuration chosen

Downstream Keyer

- Supports graphics up to 2K/HD with alpha channel over video, matte or framebuffer, or framebuffer content over incoming video or matte

Down-Conversion 4K/UltraHD

- Real time, dedicated 4K down-conversion output (1x BNC)
- 4K to 2K down-conversion
- UltraHD to HD down-conversion

Reference and LTC I/O

- 1x BNC LTC output
- 1x BNC assignable to Reference video or LTC input

Reference

- Analog Color Black (1V) or Composite Sync (2 or 4V) or HD Tri-Level Sync (1V)
- Reference input is terminated into 75 ohms when Genlock is set to Ref In

Electrical Interface

- Thunderbolt 3 (2x)

Machine Control

- RS-422, Sony 9-pin protocol
- 9-pin D-connector pinout is as follows:

Shell	GND
1	GND
2	RX-
3	TX+
4	GND
5	No Connection
6	GND
7	RX+
8	TX-
9	GND

Size (w x d x h)

- 8.74" x 8.11" x 1.65" (222.0 x 206.0 x 41.9 mm)

Weight

- 3.4 lbs (1.6 kg)

Power (device only)

- 10-20V, 30W typical, 36W max, 70W max with USB-C power delivery to external devices

Environment

- Safe Operating Temperature Range: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)